AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are or were in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier.

1. – 19. (Canceled).

20. (Currently Amended) A process ~~for preparing a furanose~~ comprising:

(a) adding CaO to a solution of D-fructose at a molar ratio of CaO to D-fructose of from about 5 to 1 to about 1.8 to 1, thereby forming 2-C-methyl-D-ribono-lactone~~;~~

~~(b) optionally protecting 2-C-methyl-D-ribono-lactone with a protecting group;~~

~~(c) reacting optionally protected 2-C-methyl-D-ribono-lactone with a reducing agent selected from the group consisting of NaHTe, SmI_2, H_2 and a Pd-phosphine catalyst, and $LiAl(O^tBu)_3H$ to reduce the lactone to a hydroxyl group, creating an optionally protected 2-C-methyl-D-ribofuranose compound; and~~

~~(d) optionally reacting the optionally protected 2-C-methyl-D-ribofuranose compound with a protecting group~~.

21. – 31. (Canceled).

32. (Currently Amended) The process of claim 20 wherein the reaction temperature ~~of step (a)~~ varies from about –5 °C to about 50 °C.

33. – 35. (Canceled).

36. (Currently Amended) The process of claim 20, further comprising:

~~a) adding CaO to an aqueous solution of D-fructose;~~

~~b) reacting the product from step (a)~~ addition of~~with~~ CO_2 until the mixture is about pH 7; addition of oxalic acid until the mixture is about pH 2 to 3;~~ to form 2-C-methyl-D-ribonolactone~~;

~~c) reacting 2-C-methyl-D-ribonolactone with benzoyl chloride to provide 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribonolactone;~~

~~d) reducing 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribonolactone with a reducing agent selected from the group consisting of NaHTe, SmI_2, H_2 and a Pd-phosphine catalyst, and $LiAl(O^tBu)_3H$ to afford 2,3,5-tri-O-benzoyl-2-C-methyl β-D-ribofuranose;~~

~~e) benzoylating 2,3,5-tri-O-benzoyl-2-C-methyl-β-D-ribofuranose in solvent to form 1,2,3,5-tetra-O-benzoyl-2-C-methyl-β-D-ribofuranose; and~~

~~f) optionally isolating the 1,2,3,5-tetra-O-benzoyl-2-C-methyl-β-D-ribo-furanose~~

separation of any resulting solid and aqueous phases;

addition of an organic solvent to the aqueous phase;

separation of the organic and aqueous phases;

evaporation of the organic solvent of the organic phase, thereby isolating 2-C-methyl-D-ribono-lactone; and

optionally precipitating the 2-C-methyl-D-ribono-lactone from acetone.

37. (Previously Presented) The process of claim 36, wherein the reaction time is from about 5 to about 25 hours.

38. – 107. (Canceled).

108. (New) The process of claim 20 wherein the 2-C-methyl-D-ribono-lactone is protected with a protecting group.

109. (New) The process of claim 108 wherein the protected 2-C-methyl-D-ribono-lactone is 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribono-lactone.

110. (New) The process of claim 20 further comprising reducing the 2-C-methyl-D-ribono-lactone with sodium bis(2-methoxyethoxy)aluminum hydride/ethanol.

111. (New) The process of claim 108 further comprising reducing the 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribono-lactone with sodium bis(2-methoxyethoxy)aluminum hydride/ethanol to form 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribofuranose.

112. (New) The process of claim 111 further comprising protecting the 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribofuranose with a protecting group to form a protected 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribofuranose.

113. (New) The process of claim 112, wherein the protected 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribofuranose is 1,2,3,5-tetra-O-benzoyl-2-C-methyl-β-D-ribofuranose.

114. (New) The process of claim 108, wherein the protecting group is selected from the group consisting of silyl, benzoyl, p-toluoyl, p-nitrobenzoyl, p-chlorobenzoyl, acyl, acetyl, -(C=O)-alkyl, and -(C=O)-aryl.

115. (New) The process of claim 112, wherein the protecting group is selected from the group consisting of silyl, benzoyl, p-toluoyl, p-nitrobenzoyl, p-chlorobenzoyl, acyl, acetyl, -(C=O)-alkyl, and -(C=O)-aryl.

116. (New) The process of claim 108, wherein the protecting group is -(C=O)-alkyl.

117. (New) The process of claim 112, wherein the protecting group is -(C=O)-alkyl.

118. (New) The process of claim 112, wherein the reactions are carried out in a solvent selected from the group consisting of water, toluene, tetrahydrofuran, dioxane, acetonitrile, dimethylformamide, dimethylsulfoxide and ethanol.

119. (New) The process of claim 20 wherein the total time for synthesis is about 60 hours.

120. (New) The process of claim 20 wherein the total time for synthesis is less than 60 hours.

121 (New) The process of claim 112 wherein the total time for synthesis is from about 5 days to about 14 days.

122. (New) The process of claim 112 wherein the total time for synthesis is from about 5 days to 10 days.

123. (New) The process of claim 112 further comprising
reacting the protected 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribofuranose with an optionally protected activated nucleoside base, optionally in the presence of a Lewis acid, to form a D-2',3',5'-tri-O-benzoyl-2'-C-methyl-D-ribonucleoside product; and optionally deprotecting the D-2',3',5'-tri-O-benzoyl-2'-C-methyl-D-ribonucleoside product.

124. (New) The process of claim 123, wherein the nucleoside base has been activated by reaction with a silylating agent.

125. (New) The process of claim 124, wherein the silylating agent is selected from the group consisting of N,O-bis(trimethylsilyl)acetamide, hexamethyldisilazane, chlorotrimethylsilane, or *tert*-butyldiphenylsilyl chloride.

126. (New) The process of claim 125, wherein the silylating agent is N,O-bis(trimethylsilyl)acetamide.

127. (New) The process of claim 123, wherein the Lewis acid is selected from the group consisting of $SnCl_4$, BF_3, $AlCl_3$, $TiCl_2$, $TiCl_4$, $FeCl_3$, $SnCl_2$ and any mixture thereof.

128. (New) The process of claim 127, wherein the Lewis acid is $SnCl_4$.

129. (New) The process of claim 123, wherein the protected 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribofuranose is 1,2,3,5-tetra-*O*-benzoyl-2-C-methyl-β-D-ribofuranose and the optionally protected nucleoside base is benzoylcytosine.

130. (Currently Amended) The process of claim 123, wherein the D-2',3',5'-tri-O-benzoyl-2'-C-methyl-D-ribonucleoside product is deprotected with sodium methoxide in methanol.

131. (New) The process of claim 20, wherein the molar ratio of CaO to D-fructose is about 3 to 1.

132. (New) The process of claim 20, wherein the molar ratio of CaO to D-fructose is about 2 to 1.

133. (New) The process of claim 20, wherein the molar ratio of CaO to D-fructose is about 1.8 to 1.

134. (New) The process of claim 36, wherein the total reaction time is about 22 hours.